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| 10/580,285 | 05/24/2006 | Fang Chen | 21506YP | 4053 |

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| EXAMINER | |
|---|---|
| CHEU, CHANGHWA J | |
| ART UNIT | PAPER NUMBER |
| 1641 | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/580,285 | CHEN, FANG | |
| | Examiner | Art Unit | |
| | JACOB CHEU | 1641 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *05 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3,5-12 and 17-24* is/are pending in the application.

4a) Of the above claim(s) *17-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-12,23 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### Status of Claims

Applicant's amendment filed on 8/5/2009 has been received and entered into record and considered.
The following information provided in the amendment affects the instant application:

Claims 4, 13-16 have been cancelled.

2. Claims 23-24 have been added to the instant application.

3. Claims 1-3, 5-12, 17-24 are pending.

4. Currently, claims 1-3, 5-12 and 23-24 are under examination. Claims 17-24 are withdrawn from further consideration.

A substitute computer readable disk for sequence has been received.

### *Claim Rejections - 35 USC § 112*

### *Scope of enablement*

### *Second IC50*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The rejections on claims 1-3, 5-12 and 23-24 under 35 U.S.C. 112, first paragraph, are ***maintained***, because the specification, while being enabling for the second IC50 15-fold greater than the first IC50 for the mixed AR agonist, does not reasonably provide enablement for a second IC50 which is about five-fold less than the first IC50 for the mixed agonist. The

specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

As set forth in *In re Wands, 858 F .2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988)*, enablement requires that the specification teach those skilled in the art to make and use the invention without undue experimentation. Factors to be considered in determining, whether a disclosure would require undue experimentation include 1) the nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5) the presence or absence of working examples, 6) the quantity of experimentation necessary, 7) the relative skill of those in the art, and 8) the breadth of the claims.

The instant invention directs to a method of determining whether an analyte has a mixed androgen receptor (AR) full agonist, full antagonist or mixed agonist activity. The method comprises of using both full length human AR and the AR ligand binding domain (ARLBD) with labeled agonist in the presence of the tested analyte. The core of the assay is to determine the IC50 (50% inhibitory concentration) of the analyte as an indicator wherein if the IC50 for the reaction of full length of AR with the annalyte in the presence of agonist is substantially the same with the second reaction of IC50 for the ARLBD with analyte in the presence of agonist, the results then show the analyte is either a full agonist or an antagonist. On the other hand, if the IC50 of the first reaction is much less than that of the second IC50, then the analyte has a mixed AR agonist.

In view of the specification, particularly the experimental data, Examiner would first to point out the IC50 refers to a *concentration* of the tested analyte which can inhibit 50% of the binding of the known agonist to either the full length of AR or ARLBD (emphasis added). With respect to the recited limitation in step (d), particularly for the determination of a mixed AR agonist activity, the experimental data do not support this notion. There is no support for this feature "about five fold less" in the specification. Examiner would like to draw attention to the

Figures 3 A-D. Roughly estimate on these data. Figure 3A, the difference between the full length and the ARLBD is about 15 fold (80 nM v. 1050 nM)(Note, the second IC50, namely ARLBD is *greater* than the first IC50)(emphasis added). For Figure 3B, the estimation is about 15-fold greater (120 nM v. 8000 nM). For Figure 3C, the estimation is about 50-fold greater (20 nM v. 1000 nM). For Figure 3D, the estimation is about 30 fold greater (30 nM v. 900 nM). The data indicate that the second IC50 needs to be greater than the first IC50 at least 15-fold to exert the mixed AR agonist activity. Applicant is invited to clarify this. Note, claim 9 also recites such limitation.

***Response to Applicant's Arguments***

Applicant's response is as followings:

*The Examiner stated that the specification does not reasonably provide enablement for a second IC50 which is about five-fold less than the first IC50 for the mixed agonist. However, the Examiner conceded that the specification is enabling for the second IC50 15-fold greater than the first IC50 for the mixed AR agonist.*

*In response, applicants respectfully traverse. Nevertheless, applicants, without conceding the correctness of the Examiner's position and to expedite prosecution of the subject application, have herein amended claims 1 and 9 to address the Examiner's rejection. Claims 1 and 9, as amended, recite in part: "a second IC50 which is five-fold greater than the first IC50." This amendment is fully supported on page 20, lines 5-16, especially lines 7-10.*

Applicant's arguments have been considered but are not persuasive.

It appears that the amendment merely enlarges the scope, i.e. greater than five fold, yet such modification does not correct the errors as outlined above. Based on the experimental data, the mixed androgen AR agonist needs a fifteen fold difference of IC50 for identification.

3. No claim is allowed.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB CHEU whose telephone number is (571)272-0814. The examiner can normally be reached on 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Shibuya can be reached on 571-272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacob Cheu/
Primary Examiner, Art Unit 1641